

## ROUNDING AND REPEATING DECIMALS

To round a decimal to a certain number of decimal places, simply follow these simple steps.

1. Find out how many decimal places you are required to round to.
2. Circle the number this many places behind the decimal point.

e.g.                      Round 19.01234567 to 3 d.p

In this case you would circle the 2

3. Look at the number after this circled number
4. If this number is less than 5 (0,1,2,3 or 4), write the new decimal as all the numbers up and including the circled number, drop off the rest

e.g                      Round 19.01234567 to 3 d.p

I would circle the 2

The number after this is less than 5 (3)

Drop the rest of the numbers

Answer = 19.012

5. If the number after the circled number is 5 or more (5,6,7,8,9), change the circled number to one more than it is now and then drop the rest of the numbers.

e.g                      Round 19.01234567 to 6 d.p

I would circle the 5

The number after this is more than 5 (6)

Add 1 to the circled number (5) into a (6)

Drop the rest of the numbers

Answer = 19.012346

## Repeating Decimals

These are decimals that go on forever

e.g.            0.3333333333333333333333333333 ..... Forever  
                  0.123123123123123123123123123123 ..... Forever  
                  19.1243566666666666666666666666 ..... Forever

Instead of rounding these decimals, we use symbols to identify that they repeat on forever.

We simply put a dot above the start and end of the pattern

e.g.            0.3333333333333333333333333333 ..... Forever  
                  can be written as 0. $\dot{3}$

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